



CONSULTANT SERVICES PROPOSAL FOR
EAST WINDSOR POLICE DEPARTMENT
EAST WINDSOR, CT

TOWN OF EAST WINDSOR, CT
LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021



Submitted by:
Communications Design Consulting Group, LLC
9 Tibbetts Rd • Barrington, NH 03825 • 603/905.9406



Communications Design Consulting Group, LLC

Wireless & Technology Planning, Design & Management for Public Safety
9 Tibbetts Road, Barrington, NH 03825
603/905.9406
www.cdcg-consultants.com

February 19, 2021

William Freeman
Communications & Technology Supervisor
East Windsor Police Department
25 School Street
East Windsor, CT 06088

Dear Mr. Freeman:

On behalf of Communications Design Consulting Group, LLC [CDCG], we sincerely appreciate this opportunity to submit a proposal for the study and recommendation for a Public Safety radio communication system upgrade in the Town of East Windsor.

We are confident that upon review of our proposal, the Town of East Windsor will be convinced our qualifications demonstrate that CDCG can fully meet the Town's requirements, as well as their expectations.

CDCG is committed to ensuring that our clients are completely satisfied with the quality of the consulting services and support they receive on an ongoing basis. Our clients should feel they have made the right choice and should be happy to recommend us.

CDCG has assisted numerous cities, counties, and state agencies providing similar services for their communications systems projects. Our team has extensive experience in identifying those requirements and developing realistic solutions to meet client expectations.

CDCG's proposed project team consists of senior engineering personnel with experience in the analysis, development, and implementation of public safety and public service communications systems, as well as 9-1-1 Centers.

We are an independent consulting firm, and are not affiliated with any provider of communications equipment or systems. Our sole focus is to provide the highest level of managed, technically competent, engineering and communications consulting services. This unbiased position provides our clients a capable partner in meeting their communications objectives. CDCG perceives its client role as their "in-house engineer."

We truly welcome the opportunity to work with the Town of East Windsor on this critical communications system project. CDCG's experience, technical competency, project tools; and, above all, its staff will enable us to serve the needs of the Town's initiative. If you have questions, or would like to meet, please contact me at 603/905.9406 or via email at nboucher@cdcg-consultants.com.

Thank you - respectfully submitted,

Normand H. Boucher
Principal Consultant

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	2
1.1	Point of Contact.....	2
1.2	Proposal Content Overview	3
1.3	Who Are We	3
1.4	Our Vision	4
1.5	Project Methodology.....	4
1.6	Our Qualified Team	6
1.7	CDCG Project References	10
2.0	PROJECT TOOLS FOR ANALYSIS AND SYSTEM DESIGN	14
2.1	Coverage Prediction and Analysis [provided in SOW].....	14
2.2	Signal Measurement Capabilities [Option].....	15
2.3	Intermodulation [IM] Analysis [Option].....	15
2.4	Microwave Path Design, Performance and Reliability Calculation [provided in SOW]	15
2.5	Microwave Path Performance Using Drone Technology [Option].....	16
2.6	System Capacity – Radio Channel Traffic Analysis [provided in SOW]	17
2.7	Project Reporting [provided in SOW]	17
2.8	FCC and Communication Site Databases [Option]	17
3.0	TOWN OF EAST WINDSOR RFP OBJECTIVES AND WORK PLAN.....	19
3.1	Phase-1 – Needs Assessment / Radio Study Work Plan	19
3.1.1	Kickoff meeting with the Town of East Windsor Project Team to identify goals and objectives	19
3.1.2	Develop project management plan	19
3.1.3	Review current system	20
3.1.4	Perform site visits and assess all infrastructure equipment.....	20
3.1.5	Review frequency issues.....	21
3.1.6	Provide detailed coverage analysis for mobile, portable, and alert paging users	22
3.1.7	Provide conceptual design options	22
3.1.8	Identify capital expenditure and recurring costs.....	23
3.1.9	Town of East Windsor Radio Study Report.....	23
3.2	Phase-2 • RFP Development and System Procurement	24
3.2.1	Preparing bid specifications document	24
3.2.2	Evaluation and Award.....	25
3.2.3	Assist in Contract Negotiations	25
	Phase-3 • System Implementation and Vendor Oversight	26
4.0	PROPOSED PROJECT COSTS, SCHEDULE, AND PROJECT ASSUMPTIONS	30
4.1	Project Schedule.....	31
4.2	Proposal Assumptions	32
5.0	STAFF RESUMES.....	33



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

2

1.0 EXECUTIVE SUMMARY

CDCG is an independent communications consulting firm that has served a wide array of Public Safety clients nationwide for over 15-years

1.1 Point of Contact

Communications Design Consulting Group, LLC [CDCG]
is based at 9 Tibbetts Road, Barrington, NH 03825.

Normand H. Boucher is the Principal Consultant and
can be reached at 603.905.9406
or at nboucher@cdcg-consultants.com





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

3

1.2 Proposal Content Overview

The following tasks are broken into three phases, are submitted for East Windsor's Project Team review addressing our plan to complete a comprehensive needs assessment; procurement specifications and assist in the bid process; as well as implementation assistance to upgrade the radio infrastructure and related systems that will be part of the Towns' modernization plan.

In general, the tasks include the following phases:

Phase-I

Conduct Needs Assessment – This effort will be to identify requirements for an upgraded radio system and technology needs to update the Town's next generation radio system. This includes identifying all systems impacted, deficiencies, and necessary budget and schedule to develop a Communications Plan.

Phase-II

Procurement Specifications, Evaluation, and Negotiation – For this effort, and based on the Communications Plan, CDCG will write a custom RFP specific to East Windsor needs that is non-proprietary, ensuring an open bid process for prospective vendors to bid on. This includes technology systems and services as well as develop a transition plan.

Phase-III

Implementation Assistance, Testing, and Acceptance – In this effort, CDCG will assist the Town with contractor implementation oversight and monitoring, including attending vendor meetings, the review of contractor submittals, periodic inspections, acceptance testing and review as-built documentation and acceptance.

The subsequent sections describe in more detail the proposed work plan for each phase.

1.3 Who Are We

CDCG is an independent consulting firm whose primary services are focused on State, County, and Local Municipal Government clients relating to all aspects of public safety and public service communication systems. We have no business relationships with any firm that provides networks, equipment, or services.

CDCG follows communication and engineering industry standards, guidelines and best practices in our planning and design efforts. We are also a member of the Project Management Institute [PMI], and agree with PMI Code of Ethics and Project Management principles, utilizing project management methodologies. CDCG's primary goal is to partner with our client to control risks, schedule, and costs for effective system purchase and implementation.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

4

In order to ensure a complete analysis of our client's communications needs in a rapidly changing technical environment, CDCG typically partners with other independent consultants or specialist to provide public safety consulting services. This allows us to leverage our team's experience capabilities while ensuring overall efficiencies.

Our core group of team members, who have worked together successfully on multiple communications projects nationwide for more than 25 years, is comprised of senior professionals – engineers, public safety consultants, technical specialists allowing us to build a team that specifically meets the needs of the clients we serve.

CDCG has had the privilege of working with other Connecticut communities, such as the Town of Windsor and the Town of West Hartford.

1.4 Our Vision

CDCG recognizes that its clients need and require objective and unbiased advice and recommendations. As an independent consulting firm, CDCG's vision is to be honest and fair in all client and vendor relationships with a focus in ensuring trust among all team members. Our main agenda is to listen to all client concerns, from top management to the end user level. CDCG strives to understand and meet client expectations and recognizes that it must work closely with the client team, ensuring that their best interest is always supported.

CDCG is committed to ensuring that our clients are completely satisfied with the quality of the consulting services and support they receive on an ongoing basis. Our clients should feel they have made the right choice and should be happy to recommend us.

This proposal is made without any connection with any other proposer submitting a proposal for the same work. No person is acting, or employed by the Town of East Windsor or the State of Connecticut, is directly or indirectly interested in the proposal, or in any contract that may be entered into to which the proposal relates, or in any other portion of the profits therefrom.

1.5 Project Methodology

In summary, CDCG will conduct an examination and evaluation of Public Safety radio equipment, systems, connectivity, communications console, and related facilities.

CDCG proposes to achieve the Town goals by meeting the following high level objectives:

1. **Facilities Objective** – Assist in determining if existing radio transmitter sites are capable to provide sufficient service for existing and future operations - are there risks and hazards to equipment and systems that may lead to the loss of communications?
2. **Technical Objective** - Determining the technical requirements for upgraded radio communications system technology and equipment currently in service. Is it capable of providing reliable service now





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

5

and the distant future? Identify physical obsolescence: old, worn out equipment subject to failure, no longer appropriate for public safety communications.

3. **Operational Objective** - Determine the optimal operational configuration for a town-wide Public Safety radio communications system to improve Dispatch and First Responder operations.
4. **Cost Objective** - Determine the cost of upgrading or replacing the Public Safety radio system, ensuring cost efficiencies in determining design concepts. Identify economic obsolescence: is it more expensive to maintain and operate than newer technology?

For us to understand the current workings, systems, and infrastructure of the Town radio infrastructure, we will conduct interviews, do site evaluations, conduct document reviews, and make field visits. In summary, this information-gathering phase will include:

1. Meeting with the Town of East Windsor Project Team to identify Project goals and objectives
2. Conduct a kick-off meeting with key team members
3. Review current system
4. Perform site visits and assess all infrastructure equipment
5. Review frequency issues
6. Provide detailed coverage analysis for mobile, portable and alert paging receivers
7. Provide various design options
8. Identify capital expenditure and recurring cost for the update system
9. Develop procurement specifications and assist in the bid process

CDCG will provide a comprehensive communications plan and report with appropriate recommendations, including the capital cost to implement, as well as and the recurring cost needed to operate an effective Town of East Windsor Public Safety communications system.





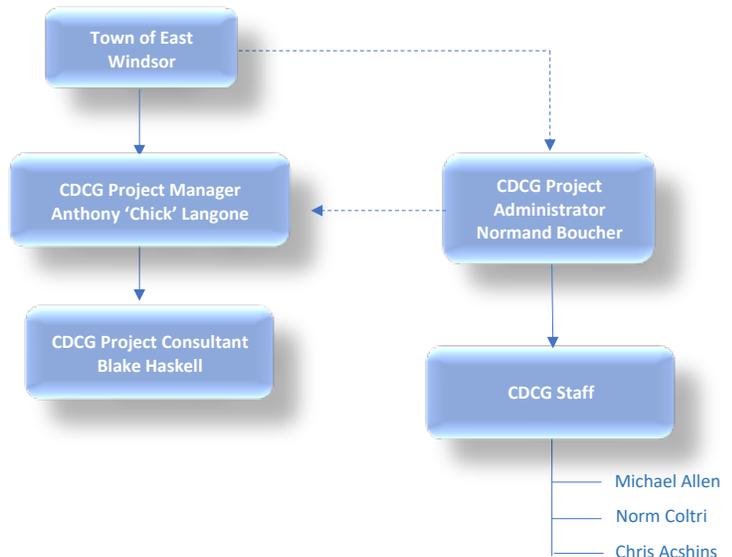
1.6 Our Qualified Team

For this engagement, Mr. Anthony ‘Chick’ Langone will be the Project Manager [PM], and the primary technical consultant, serving as the primary day-to-day contact responsible for the completion of tasks identified in this proposal. Mr. Norm Boucher and Mr. Blake Haskell will assist the PM in completing the required tasks.

Mr. Boucher, Principal Consultant of CDCG, is assigned the role of Project Administrator. In this role, he will be closely involved with the project from start to finish and will be readily available to East Windsor.

While the day-to-day operations will be maintained by Mr. Langone, Mr. Boucher’s will be a liaison between East Windsor and the CDCG project team, coordinating efforts and assigned resources, review of deliverables, and to ensure success of the project.

As previously cited, CDCG partners with senior engineers and consultants in providing multiple discipline expertise to various communications technology tasks. Other consulting staff may be utilized on this project as directed by Mr. Langone. A brief synopsis of the CDCG team members is provided below. Resumes of key members are provided in Section-5.



Our team has been involved in numerous small to large-scale public safety communication networks nationwide. Our staff has worked together on many projects, easily complimenting each other with each individual understanding roles, especially in meeting our client’s time objectives and the quality of deliverables.

CDCG believes that its team is uniquely qualified to perform the necessary tasks. The team includes personnel who are successful on their own. Unlike some consulting companies with large full time staff that must maintain high utilization rates, our team includes only those members that can directly contribute to the tasks required. This eliminates the temptation to assign staff because of low utilization rather than direct contribution to the project.

Together, we will provide assurance that we as a team will not drive system functionality or solutions; but provide East Windsor with technical data and knowledge needed to make suitable decisions in a way that will include a result with common-sense operational success.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

7

PROJECT ADMINISTRATOR

Normand Boucher
Communications Design Consulting Group, LLC [CDCG]

Mr. Boucher, as an experienced Public Safety LMR communications engineer is in his third decade of providing Public Safety communications consulting services. He fully understands current industry trends and client issues, with experience in the planning, designing, and implementation of public safety communications systems. This includes a history of successful projects in systems of all sizes, ranging from small municipalities to large scale statewide networks.

He has personally been involved in numerous radio systems, microwave, including P25 and DMR radio projects. His technical expertise includes specification and implementation of trunked and conventional radio, analog and digital systems; site acquisition, FCC licensing, radio propagation analysis, and project management.

PROJECT MANAGER

Anthony "Chick" Langone
Langone & Associates

Is an experienced Communications Engineer and Project Manager, with experience in analog/digital radio systems and 9-1-1 center technology, trunked system design, microwave, fiber, and radio site development/upgrades as well as in system maintenance definitions and specification.

His experience includes comprehensive range of radio communications design and implementation skills and expertise provided to both the 9-1-1 Dispatch Center and Radio Communications community. Based on this experience and knowledge of the complex nature of Public Safety and Homeland Security Communications, Mr. Langone has offered advice to clients with challenging situations, resulting in the development of successful strategies to effectively and successfully accomplish their communications objectives.

He has over 35 years of experience in Public Safety communications, recently completed the implementation of a multi-County [Onondaga, Oswego, Madison, Lewis, and Cayuga] regional UHF Project-25 Trunked radio systems located in central New York. The regional network is comprised of 60 transmitter sites with well over 10,000 users currently operating on the system.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

8

PROJECT CONSULTANT

Blake T. Haskell
J.D. Hunter, Inc.

Mr. Haskell will assist the Project Manager in tasks relating to coordinating access to communications sites, including identifying federal, state, and local regulatory requirements such as NEPA, FEMA, EHP, FAA, as well as local zoning for the proposed sites. He will also assist in modifying or developing site MOUs as required.

He has extensive experience working with diverse organizations including Law Enforcement, Fire Services, EMS, and hospitals and other agencies to develop mutually agreeable documents for the installation of new or upgraded equipment. J. D. Hunter, Inc. provides advisory services to property owners and government agencies on issues pertaining to wireless siting and public safety communications issues.

Prior to founding J. D. Hunter, Inc., Mr. Haskell worked in the wireless industry as a Real Estate and Zoning Manager for various telecommunications carriers. He has dealt with all aspects of site development and network design, implementation and integration.

Mr. Haskell has worked with both Mr. Langone and Mr. Boucher on several Public Safety communication projects.

CDCG Personnel Available Resources

The CDCG team includes additional staff that have extensive public safety communications experience. These individuals are not planned to participate on the project. However, if their services are needed, CDCG will submit a scope of services and associated cost.

Mr. Michael Allen,
ENP

9-1-1 Communications Center Specialist - Mr. Allen's career spans two decades of public safety communication that includes having served as the Director of 9-1-1 Emergency Communications Center for the County of Oswego, NY. Under his direction, he provided the guiding vision in the development and construction, as well as the management of an efficient Communications Center with a staff of 32 persons and a \$2.5-million annual budget.

He is fully cognizant in all aspects of Public Safety dispatch center operations and management that include call-taking, dispatching, staffing, scheduling, budgeting, personnel management, policies, training, procedures, and technology.

Technology includes communications dispatch console and associated sub-systems, such as Next-Gen PSAPs, GIS/mapping, 14-site trunked radio system; a 21-site county-wide microwave system; County-wide telephone system; broadband fiber optic network; and, Computer Aided Dispatch.

Mr. Allen also led a consortium of six [6] counties in central New York in the development and implementation of best practices, policies, and shared services of a regional radio communications system of 10,000 users.



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

9

	<p>Mr. Allen was also Co-Chair, Communications Interoperable Working Group, for the New York Department of Homeland Security and Emergency Services. The Working Group formed to develop policy and best practices for Statewide Communications Interoperability. Other tasks include Statewide ESI-Net Exploratory and Development Discussion; Next Gen Deployment; and is author of White Papers explaining emerging technologies including a Statewide ESINet, and State coordination of NG 9-1-1 Services.</p>
<p>Mr. Norm Coltri NRC Telecom, Inc.</p>	<p>FCC Regulatory Specialist – as principal at NRC Telecom, Norm Coltri provides consulting services with emphasis on frequency acquisition and spectrum management. He participates with the various NPSPAC Regional Planning committees to reduce interference while maximizing frequency reuse, and applies engineering analysis based upon EIA/TIA TSB-88 and other standards to frequency licensing proposals.</p> <p>Mr. Coltri specializes in FCC frequency analysis and research; prepares and files FCC applications, waivers and Special Temporary Authorities [STA] for public safety licensees; has relationships with FCC licensing staff to discuss complex licensing projects; has participated in industry associations to develop strategies for obtaining additional spectrum or protecting existing spectrum allocations for public safety.</p> <p>Norm’s prior experience includes sixteen years with RCC Consultants and Black and Veatch, Inc. lastly serving as Regulatory Specialist. Responsibilities included assisting with the location and licensing of LMR spectrum, much in highly spectrally impacted areas of the country. Norm also served twenty-nine years with the New Jersey State Police providing engineering support for the development of a statewide 800 MHz trunked radio system, then as police frequency coordination for all agencies within the state. He was also a regional local advisor for APCO.</p> <p>Norm was court recognized as an expert witness in the area of RF interference. He also served as a Commissioner on the NJ 9-1-1 Commission to foster the development of the first statewide emergency number calling network. Since entering private consulting, Mr. Coltri has participated in numerous public safety and critical infrastructure projects within the US.</p>
<p>Chris Achtschin CSA Solutions, Inc.</p>	<p>Senior Technologist – Mr. Achtschin is a Senior Technical Consultant with decades of public safety and commercial communications experience. He has a strong background in radio system technical equipment/processes, and has installed and maintained radio communications systems. Other areas of technical specialty includes IP/Ethernet systems, communications consoles, and microwave and fiber systems.</p> <p>Mr. Achtschin previous employment includes supporting, planning and upgrade of a public safety communications system in his 15-year service to Yates County, NY. He also maintained microwave system equipment for MCI Communications. In recent years, Mr. Achtschin has been providing ongoing consulting services in the area of planning and implementation technical assistance to various Counties in the State of New York, and has assisted CDCG in numerous projects in support of CDCG clients.</p>





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

10

1.7 CDCG Project References

To demonstrate our experience on past projects, we briefly describe related references for the Town's project team. The references provide reviewers with specific information to contact previous clients regarding our abilities and performance during the project engagement. We are submitting three [3] references, additional references can be provided.

Project Reference-1: WEST HARFORD, CT			
Contact	Prime Consultant	Project Team	Description of Project
Keith Victor Project Manager 50 South Main St West Hartford, CT KVictor@WestHartfordCT.gov	Communications Design Consulting Group, LLC [CDCG]	Norm Boucher & Chick Langone	Replacement of end-of-life Motorola SMARTNET 800 MHz trunked radio system with P25 TaitNet trunked system
Services Provided	<p>CDCG was selected by the Town of West Hartford to provide consulting services to assist the Town in the final project planning to migrate their legacy [2] site 800 MHz SMARTNET analog system to a Project-25 Phase-1 system.</p> <p>The replacement system is a seven [7] channel, three [3] site simulcast system. The project began in 2016 with CDCG reviewing and verifying that the Town's procurement specification [written by others] to ensure an open procurement specification, guaranteeing a competitive process. CDCG assisted the Town in the bid process and contract negotiations, with the Town selecting Marcus Communications, Inc. to provide a TaitNet P25 trunked infrastructure with Harris, E.F. Johnson and Tait subscribers. The project also includes SAIE microwave radio, Avtec Scout communication console, and Zetron fire alerting system.</p> <p>CDCG also assisted the Project Manager in system implementation, coordinated monthly project status meetings, monitored vendor progress, maintained project schedule, technical assistance and resolving vendor conflicts.</p> <p>The system was completed in late 2019.</p>		
Project Status	Completed - providing ongoing project support		





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

11

Project Reference-2:

TOWN OF WINDSOR, CT

Contact	Prime Consultant	Project Team	Description of Project
<p>Paul Goldberg Project Manager Fire Administrator/EMD</p> <p>Town of Windsor 275 Broad ST Windsor, CT 06095</p> <p>860-285-1983 goldberg@townofwindsorct.com</p>	<p>Communications Design Consulting Group, LLC [CDCG]</p>	<p>Norm Boucher</p>	<p>Replacement of end-of-life E. F. Johnson MultiNet trunked radio system with Motorola ASTRO-25, P25 Phase-2 trunked system</p>
Services Provided	<p>CDCG was selected by the Town of Windsor to provide consulting services to assist the Town in the implementation of their legacy three site 450 MHz E. F. Johnson Multi-Net analog trunked system to a 700 MHz Project-25 Phase-2 system.</p> <p>The project also included a three [3] site, UHF Motorola TRBO DMR radio for the Town of Windsor public schools.</p> <p>The replacement public safety system is a five [5] channel, Motorola ASTRO-25 three [3] site simulcast system. The project began in 2018 with CDCG assisting the Windsor project manager with technical assistance, reviewing and approving vendor documents and drawings, factory testing, and field coverage testing. Assisted in FCC licensing.</p> <p>The project also includes 11 GHz Aviat microwave radio and Motorola MC7500 communication console.</p> <p>The system was completed in October 2020.</p>		
Project Status	Providing ongoing project support		





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

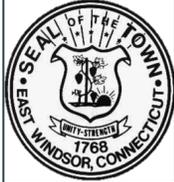
12

Project Reference-3:

CITY OF PORTLAND, ME

Contact	Prime Consultant	Project Team	Description of Project
<p>Andrew Dziegielewski Emergency Communications Director Portland Regional Communications Center 109 Middle Street Portland, ME 04101 (207) 874-8575 andrewd@portlandmaine.gov</p>	<p>Communications Design Consulting Group, LLC [CDCG]</p>	<p>Norm Boucher and Chick Langone</p>	<p>CDCG HAS provided communication consulting services to the City of Portland since 1997, resulting in three major communications projects</p>
<p>Services Provided</p>	<ol style="list-style-type: none">1. 1997 - 1999 / The City operated an archaic conventional VHF system that was experiencing failures, poor coverage performance, and unreliable lease telephone lines. Developed Needs Assessment, System Design, Procurement Specifications, FCC licensing, and Implementation oversight for upgrading a to 7-channel 800 MHz trunked network, and new communications dispatch console. The system utilized fiber optic network for connectivity from the radio sites to the 91-1 Center. The network chosen was a three [3] site Motorola SMARTNET transmitter simulcast analog system with approximately 1,100 users.2. 2006 - 2008 / Based on Nextel Communications interference to public safety systems, the City was mandated by The FCC to change frequencies [800 MHz Rebanding]. This resulted in the replacement of most subscriber radios and the retuning of the infrastructure at the expense of Nextel. Equipment sub-systems not capable of operating on the new frequencies were replaced, including the Network Management and Vehicular Repeater Systems.3. 2015 - Ongoing / The City was experiencing end-of-life issues with the Motorola SMARTNET system. As a result, CDCG developed a Feasibility Study to identify system issues and to recommend course of action. Tasks included performing coverage analysis using TSB-88 standard for inside heavy buildings; increased channel capacity from 7 channels to 10; assisted in the development of an EOC to mirror dispatch operations; and FCC licensing. Site connectivity was to expand the fiber optic network. CDCG developed procurement specifications, assisted in bid process and contract negotiations, oversight of system acceptance testing and implementation support. The network chosen was a 5-site transmitter simulcast Project-25 Phase-1 digital system.		
<p>Project Status</p>	<p>Completed. Providing ongoing consulting support</p>		





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

13

PAST EXPERIENCE EXAMPLES

STATES	COUNTIES	CITIES & TOWNS	UTILITIES	OTHER
Delaware Office of Technology	Albany County, NY	Acushnet, MA	Baltimore Gas & Electric, MD	AMTRAK
Delaware DoITT	Baltimore County, MD	Andover, MA	Boston Water & Sewer, MA	Brown University, RI
Delaware DPS - DIVCOM	Calhoun County, AL	Asheville, NC	Central & Southwest Utilities, TX	Central MA EMS, MA
Florida JTF Statewide Radio System	Cayuga County, NY	Atkinson, NH	Central Maine Power Co.	Columbia Spectrum Management, MD
Mass. Dept. of Conservation & Recreation	Carroll County, NH	Atlanta, GA	EPRI, DC	Dartmouth College, NH
Mass. Dept. of Health - EMS Services	Chemung County, NY	Auburn, ME	Florida Power & Light Seabrook	Franklin Regional Council of Governments [FRCOG], MA
Mass. Exec. Office of Public Safety & Security	Chenango County, NY	Boston, MA	Long Island Lighting, NY	Glaxo, Inc., NC
Nebraska State Comm. Plan	Clark County, NV	Brattleboro, VT	New England Power Corp, MA	JFK Airport, NY
New Hampshire Governor's Radio Task Force	Clinton County, NY	Carlisle, MA	Niagara Mohawk Power Corp, NY	Mass Bay Transit Authority [MBTA], MA
Rhode Island Dept of Administration DoIT	Cumberland County, ME	Cumberland, ME	Northeast Utilities, CT	Merrymeeting Council of Gov., ME
Rhode Island Dept of Corrections	Franklin County, VT	Falmouth, ME	NY State Electric & Gas, NY	Northeast MA Homeland Security Region [NERAC]
Rhode Island Dept of Transportation	Franklin County, MA	Fairhaven, MA	Public Service Electric & Gas, NJ	Boston - Mayor's Office of Emergency Preparedness
Rhode Island Emergency Management	Grand Isles County, VT	Fort Lauderdale, FL	Southwest Electric Power Co, LA	Maryland Institute of EMS Services [MIEMSS]
Rhode Island Public Transit Authority	Greene County, NY	Freeport, ME		Metropolitan Area Planning Council [MAPC], Boston, MA
Vermont DPS CJS	Howard County, MD	Gorham, ME		Metro Washington Airport Authority [MWAA], DC
	Lamoille County, VT	Groton, MA		Southeast MA Homeland Security Region [SRAC]
	Lewis County, NY	Hanover, NH		Upper Eastern Shore Counties, MD
	Livingston County, NY	Las Vegas, NV		
INTERNATIONAL	Loudon County, MD	Lebanon, NH		Subject Matter Expert [SME] - OTHER COMPANIES
Techno-Sciences, Inc. / Morocco	Madison County, NY	Lewiston, ME		ACD Telecom, Inc.
Unilux-IV / Trinidad & Tobago	Maui County, HI	Maitland, FL		ACG, Inc.
	McHenry County, IL	Mattapoisett, MA		ARCADIS, Inc.
	Middlesex County, NJ	Narragansett, RI		ArdentMC, Inc.
	New Castle County, DE	No. Providence, RI		Computer Analysis Associates, LLC
	Niagara County, NY	Norwich, VT		CCMS, Inc.
	North Hampton County, PA	New York, NY FDNY		CSA Consulting
	Oneida County, NY	New York, NY DoITT		CTGi, Inc.
	Onondaga County, NY	Peabody, MA		DiDonato Consulting Services, Inc.
	Oswego County, NY	Peekskill, NY		J. D. Hunter, Inc.
	Palm Beach County, FL	Providence, RI		Green Mountain Communications, Inc.
	Penobscot County, ME	Portland, ME		Isotope, Inc.
	Putnam County, NY	Seekonk, MA		L3 Communications, Inc.
	Rensselaer County, NY	South Portland, ME		Langone & Associates
	Sacramento County, CA	Syosset, LI, NY		Ossipee Mountain Electronics, Inc.
	Sagadahok County, ME	Stamford, CT		RCC Consultants, Inc.
	Schenectady County, NY	Tewksbury, MA		Robbins-Gioia, Inc.
	Seneca County, NY	Waterford, CT		Ross & Barunzinni
	Suffolk County, NY	Wilmington, DE		MACRO Inc.
	Warren County, NY	Westfird, MA		Malcolm-Pirnie, Inc.
	Washington County, NY	West Hartford, CT		Nelson Communications, Inc.
	Washington County, RI	Windsor, CT		NYSTEC Corporation
	Yates County, NY	Yarmouth, ME		Roaming Intelligence, LLC
				Touchstone, LLC
				Towpath, LLC
				Vogel Consulting Group
				Wildan Homeland Solutions, Inc.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

14

2.0 PROJECT TOOLS FOR ANALYSIS AND SYSTEM DESIGN

The CDCG Project Team utilizes a variety of software and engineering RF planning and analysis tools to accomplish specific RF technical tasks. These include, but not limited to radio propagation prediction and analysis, microwave path calculation and analysis; signal measurements; system loading analysis, and intermodulation [IM] interference analysis. Descriptions of our planning tools are provided below.

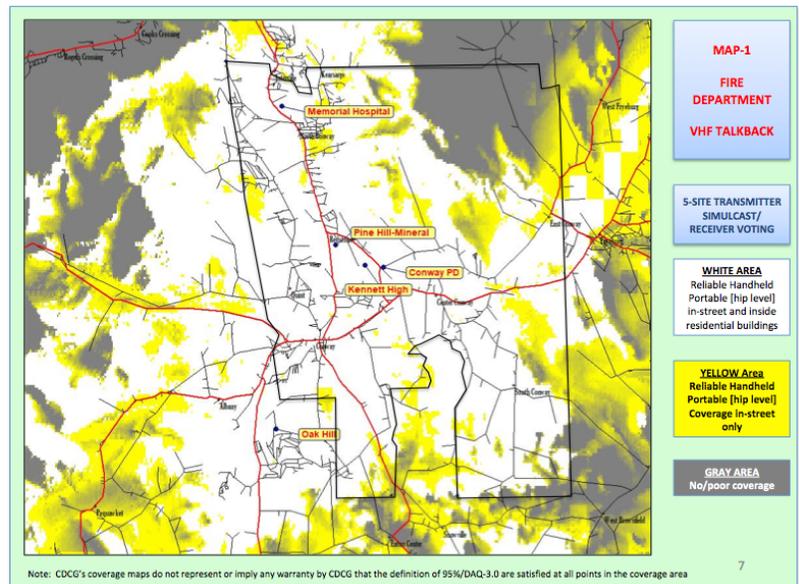
2.1 Coverage Prediction and Analysis [provided in SOW]

The Project Team can provide a Mapbook of computer generated coverage predictions maps for the existing and/or new radio sites to enhance coverage requirements.

The Mapbook will show various coverage maps based on mobile, handheld portables, alert paging, as well as talk-in, talk-back, in-building and in-street scenarios.

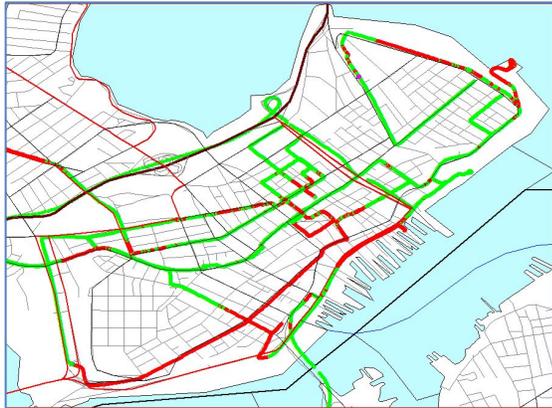
Designs factors such as local environmental noise floor; DAQ; area reliability; antenna losses; simulcast propagation delay performance [TDI]; and, voted receiver joint probability improvement are considered, all to ensure realistic coverage prediction.

The Project Team engineers are experienced in radio propagation prediction and analysis using industry-accepted software modeling tools. The Project Team uses RadioSoft CommStudy-2 software. Coverage prediction parameters will conform to public-safety design standards [95% reliable coverage with a DAQ-3.4 [3.0 analog] [Delivered Audio Quality] per TIA/EIA-TSB88], or a Bit-Error-Rate of 2%. The ComStudy software has several mathematical propagation equations, based on electromagnetic theory, to model coverage in time and location. These models include Longley-Rice, Okumura, Epstein-Peterson, and Bullington, which are proven general-purpose models that can be applied to a variety of radiowave engineering problems encountered in radio system design coverage.





2.2 Signal Measurement Capabilities [Option]



The Project Team has precision field strength measurement equipment for performing radio communications system talk-out coverage surveys to provide real-time coverage of transmitter sites or radio system. The Project Team can map out coverage for existing or proposed transmitter sites. Surveys are performed using either existing base station facilities, or by installing equipment on a temporary basis at proposed base station sites.

2.3 Intermodulation [IM] Analysis [Option]

The Project Team utilizes Intermodulation IM interference software [F-Intermod] to calculate IM products of transmitters at a communications site. This tool is used to guide the proper design for antenna placement and to mitigate IM interference that may desense site receivers. Although not an exact science due to the multiple variables involved, results may be difficult to understand or interpret, but general knowledge of IM interference at a site can identify potential interference impact to receivers in the system design, as well as identifying equipment that may be needed to mitigate interference.

2.4 Microwave Path Design, Performance and Reliability Calculation [provided in SOW]

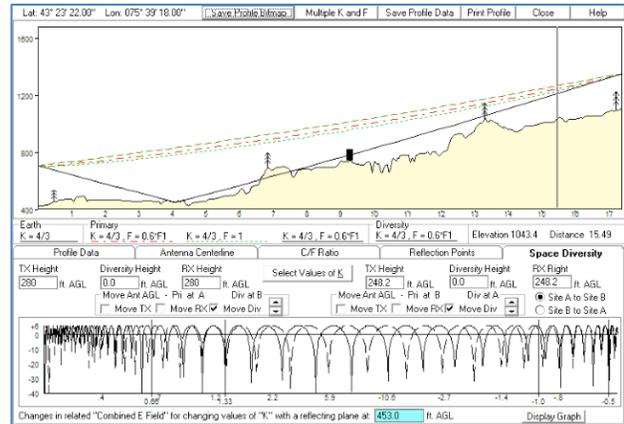
The Project Team uses Micropath, which is a computer based microwave engineering tool used to develop path profiles between the proposed sites to analyze and assess transmission path reliability. Micropath also provides a technical baseline and calculates microwave path transmission characteristics, to maximize reliability and availability performance using solid transmission engineering principals.

Our computerized path analysis is based upon the following technical parameters:





- Propose path clearances for antenna centerlines based on profile elevations, uniform tree heights, and calculated for various values of earth curvature [K].
- Fresnel Zone clearances, making sure that all clearances over the path are at least 0.6F1 to ensure free space propagation. From this information, the initial parabolic antenna sizes can be calculated.
- Calculation of path performance and reliability [system up time]. Calculation and analysis of signal levels for each path. This analysis determines system performance as a function of the path length, type of terrain, and climate characteristics of the area.
- Determine composite fade margin requirements for each path to indicate how much signal attenuation can be expected. The path data sheets generated will assist in determining the overall operating condition of the path, and also will be used in obtaining microwave frequencies and FCC licensing.



Micropath is used as a preliminary analysis tool. Final path design is completed after the microwave vendor completes the physical path survey.

2.5 Microwave Path Performance Using Drone Technology [Option]



CDCG can provide various Drone surveys to enhance site studies of the communications compound, tower, antenna overviews, as well as microwave path analysis. Our Drone Operator is an experienced FAA certified Part-107 Small Unmanned Aircraft Remote Pilot Operator.

Our Drones are DJI's Inspire 1v2 units that use a dual positioning system [GLONASS + GPS], which enables higher precision while giving the unit a point to hover.

The Drone has a built-in 4k camera with 360° filming capability that can capture images with a maximum resolution of 4608 x 3456 @ 16MP, as well as capture 4K video @ 30fps. They are also equipped with a gimbal that allows for interchangeable lens to enhance image capture.

For site surveys, CDCG can provide video and/or pictures of the communication site compound; determine tower heights, as well as antenna type and heights installed on the structures or rooftops. Close up images can be taken to zoom on specific tower locations or antennas.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL LAND MOBILE RADIO ANALYSIS FEBRUARY 19, 2021

17

For short microwave paths, and in lieu of the computer generated microwave path profile and clearance analysis, CDCG can provide field verified microwave line-of-sight path performance using a Drone to validate path profile elevations, terrain heights, and all natural and manmade path obstructions. The Drone is used to establish actual antenna height centerlines. The Drone(s) have precision camera system that can zoom to capture distance images, and to analyze hops up to 10 miles based on clear weather conditions and visible antenna structures.

2.6 System Capacity – Radio Channel Traffic Analysis [provided in SOW]

For First Responders, a poor Grade-of-Service [GOS] means blocked calls resulting in communications delays. To reduce or eliminate system call delays, there needs to be sufficient number of radio channels to meet user demands under all types of operating conditions. Operating conditions are typically expressed in terms of average busy hour during emergency peak loading, and the non-busy hour.

The GOS modeling is based on operational variables drawn from system data, typically from radio system management statistics. If no statistics are available, the Project team will determine the number of radio channels needed. It also identifies the probability of call waiting times, and probability of a call answered in the target time. The Project Team uses Erlang/mobile values extrapolated from past analysis for Law Enforcement, Fire, and EMS services. The Project Team uses Erlang-C software analysis tool to examine key operational parameters such as Busy Hour and average call durations to

Erlang-C [traffic intensity] is used as it assumes that busy calls [blocked] go into queue. Blocked calls are delayed by holding them in queue until a voice channel is available [for trunked radio systems]; and, calls dropped if conventional radio system. The Project Team generally designs service level and channel capacity for 99% availability with a maximum delay in queue of 1-second.

System Loading Analysis
Worst Case Busy Hour

Calculate the number of channel required to reach desired service level

Yellow Box = User Input Earthquake/Syr/ML/Plows
Blue Box = Output Calculations

Incoming call rate	5210	# PTT calls per hour
Worst case busy hour		
Average call duration	1.5	seconds
Required service level	99.0%	P= 0.01
Probability of system access		
Max delay	1	seconds
Traffic Intensity	2.17	Erlangs
Required Number of Channels:	6	Voice Channels
Probability a call waits	2.59%	
Probability call is answered in target time	99.80%	

Uses Erlang-C formula; Erlang-C assumes busy call goes in queue

2.7 Project Reporting [provided in SOW]

The Project Team can utilize a web-based tool to provide the client staff with current project status, activity and project documents. This is typically a Dropbox file sharing tool [proposed], but may include a summary project management tracking site that would include project timelines, task & actions, risk & issues, and project documents [option]. The Project Team and the client will identify the appropriate tool.

2.8 FCC and Communication Site Databases [Option]

The Project Team can identify frequencies in any frequency band and file applications to license them for clients. The FCC makes the final decision on granting licenses.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

18

We subscribe to, and have access to various databases for frequency research and site identification in specific geographical areas and can provide custom searches. Database includes the FCC Universal Licensing System, SpectrumWatch, and Percon Corp Datalinks, as well as commercial site databases.



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

19

3.0 TOWN OF EAST WINDSOR RFP OBJECTIVES AND WORK PLAN

The following Work Plan describes the tasks required to assist the Town of East Windsor in developing a strategic Communications Plan. The plan will address the Town's requirements for an upgraded radio system.

3.1 Phase-1 – Needs Assessment / Radio Study Work Plan

CDCG will assist the Town of East Windsor in determining whether they remain on their own stand-alone communications system, to join the Connecticut Land Mobile Radio Network [CLMRN], or to identify other opportunities. CDCG is familiar with statewide systems, having consulted and specified requirements for the Rhode Island and Delaware statewide 800 MHz trunked radio systems.

The tasks in the subsequent sections will be undertaken to identify the requirements and costs to develop an East Windsor Communications Plan to implement either a Town owned radio system, or to migrate to a shared centralized radio network [CLMRN]. The plan will examine the benefits and disadvantages between the two options identifying potential short and long-term savings and to reduce total overall operational costs.

Whether implementing a stand-alone network, or transitioning to a centralized trunked system, CDCG will identify the technical requirements, operational changes, and the financial implications of each option, now and in the future, for the Towns consideration. Above all, the selected system must have the flexibility to support and manage the Towns radios communications needs.

3.1.1 Kickoff meeting with the Town of East Windsor Project Team to identify goals and objectives

CDCG will meet with the Town's Project Team in preparation for project kickoff and to define the performance requirements for future upgrades or replacements. This includes identifying the study team members and identifying Town of East Windsor representatives who can provide needed information. Develop and agree to a complete list of tasks, timetables and deliverables and finalize strategies for the performance of the project, and discuss any other aspect of the project deemed relevant by the Town of East Windsor.

3.1.2 Develop project management plan

CDCG will submit a basic Project Management Plan that details our timelines and steps needed in order to complete the project within the proposed schedule. The Project Plan will include major objectives, milestone start/completion dates, and minor tasks required to complete the project in a timely manner. The Project Plan will also discuss key risks and strategy for resolution.





3.1.3 Review current system

This initial step is very important as it categorizes the current communications environment of the user base, and is part of the baseline information that is needed to develop an upgraded system. This task approach will be from an end user perspective, whose operational requirements will be backfilled with the appropriate solution and equipment needed to fulfill their communications requirements.

Review documentation – existing reports, methods, inventories, budgets, audits, FCC licenses, and other reports.

Interviews. We will use purpose designed interview instruments to ensure consistency in methodology. This will also allow us to quickly tabulate results. We will interview the Town of East Windsor radio planners, Law Enforcement, Fire, EMS and School officials, and other Town Stakeholders.

We plan to conduct the interviews using Zoom, or face-to-face meetings where applicable or desired.

CDCG will understand and verify:

- Town of East Windsor 's operating philosophy and organizational needs regarding the radio system
- How major dispatch functions are performed
- The flow of information through the various locations and dispatch points
- The strengths and weaknesses of the current system, functionality required in the new system, and ancillary hardware and software to be considered in the design process
- Maintenance problems and concerns relating to the existing radio system and how eliminated in the new system
- Interconnecting radio sites and the dispatch center, network topology, routing and capacity
- Existing systems and subsystems to determine their availability and viability in an updated communications system
- Existing physical facilities and those that may be in the planning stage for availability and viability to support dispatch and radio communications
- Review requirements for analog and/or digital modulation
- Impact on existing Communications Center / Dispatch Operations or equipment
- Subscriber inventory, specialized needs for portable radios, mobile equipment types and tier of subscriber radios equipment and features such PTT ID and encryption

3.1.4 Perform site visits and assess all infrastructure equipment

It is essential that system equipment be inspected to determine if there are any physical, functional, or economic obsolescence.

Radio systems must provide high reliability during adverse situations and minimal delays during busy periods. Communications system, equipment and software are susceptible to failures. Vulnerabilities that may affect or interrupt service will be identified and addressed to reduce or eliminate potential risks and hazards.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL
LAND MOBILE RADIO ANALYSIS
FEBRUARY 19, 2021

21

Our specific approach to the site visits is to determine the following vital questions:

- Is there equipment space available in the equipment room
- Is there antenna mounting space available on the tower
- Is there sufficient primary AC and back-up power reliability and capacity
- Is there any other site improvements that may be required

In summary, areas to be inspected are

- **Structural:** Inside/outside building hazards that may potentially damage or impact equipment facilities; secure location for equipment; access requirements; fuel tank locations and protection; and structural integrity of communication towers
- **Equipment:** Secure cabinets and racks; equipment/sub-equipment redundancy and backup; equipment diagnostics; network management system; grounding and lightning protection
- **Facilities:** Secure and clean equipment room; UPS and emergency generators; primary power grounding and bonding; temperature control; power surge & lighting control protection; facilities monitoring; identification of non-structural hazards
- **Network:** Protection/security of critical voice/data links; redundancy, alternate routing; backup locations; coverage overlap; re-routing; network management; remote access, encryption, software security, and control of encryption keys

CDCG will provide an assessment of the site conditions in the Communications Plan and Report.

3.1.5 Review frequency issues

CDCG will review the existing Town of East Windsor channel plan and the use of existing radio frequencies. We will also assess communications with adjacent municipalities or other public safety entities, use of available channels for wide-area, tactical, fire ground, or joint operations.

CDCG will inventory the FCC database for existing Town of East Windsor FCC licenses and examine the frequency authorizations, to determine how they may be implemented in the upgraded system, and to determine license technical parameters, data accuracy and completeness.

We will identify frequency issues in the report.

We will also conduct preliminary, high level assessment of potential new frequencies that may be available to the Town.





3.1.6 Provide detailed coverage analysis for mobile, portable, and alert paging users

Reliable signal coverage is paramount to operating a successful radio system.

CDCG will conduct an in-depth analysis of signal coverage to determine what changes are needed to provide reliable coverage within the Town operating region. This will be performed using computer coverage prediction software. CDCG will provide computer generated coverage predictions maps for the existing and/or new radio sites to identify coverage requirements.

CDCG engineers are experienced in radio propagation prediction and analysis using industry-accepted software modeling tools. Coverage prediction parameters will conform to public-safety design standards [95% reliable area coverage with a DAQ-3.0/3.4 (Delivered Audio Quality) per TIA/EIA-TSB88]. Please refer to Section-2.0 for detailed description of our tools and capabilities.

For Town coverage analysis, CDCG will provide a Mapbook within the Communications Plan Report with computer generated coverage prediction maps for the existing and/or new radio sites needed to enhance coverage requirements.

The Coverage Mapbook will show various coverage maps based on mobile, handheld portable radio worn at the hip, alert paging, as well as talk-in, talk-back, in-building and in-street scenarios. If required, time delay interference [TDI] based on simulcast delays in overlap areas, will also be analyzed.

3.1.7 Provide conceptual design options

In this phase, CDCG will develop solutions to upgrade Public Safety communications. We will identify all of the critical technical performance objectives, and develop the performance requirements for system operation and maintenance. CDCG understands the need to develop a solution based on defined requirements and available solutions rather than making a premature determination. It is clear that any appropriate solution would include:

- Facility with adequate space to meet the expected growth
- High reliability backhaul (IP/Ethernet, fiber optic, microwave, etc.)
- High reliability radio coverage for handheld portable radio (using existing sites, or additional sites to provide reliable regionwide coverage, if needed)
- High reliability system architecture; system protection, survivability, and redundancy
- Adequate channel [frequencies] capacity for current & future needs, for both normal and busy conditions
- A means to address additional requirements NOT met
- How to transition from the old system to new system





3.1.8 Identify capital expenditure and recurring costs

A budgetary cost estimate will be developed using current vendor pricing. The budgetary estimate will outline the various components of the proposed system and will address system development, procurement, implementation and maintenance. The cost estimate provided will be comprehensive, providing the Town with a complete picture of all costs associated with system implementation and its ongoing maintenance and operational support.

Cost items to be included are:

- Radio infrastructure and connectivity
- Facilities remodeling cost estimates, if needed
- Center technology/equipment/sub-systems
- Recurring operating and maintenance cost

3.1.9 Town of East Windsor Radio Study Report

The outcome of the planning and design tasks will be discussed with the Town's Project Team. The discussion will be a list describing issues, concerns and requirements, for the Town of East Windsor's review.

3.1.9.1 Prioritize communications system needs

CDCG will assist the Town in prioritizing the system needs as follows:

- based on its relative value to its planners and management
- its applicability to provide relief to existing or near future problems
- its near term or long term deployment based on current and future budget appropriations

There may be key or critical system elements that may need to be implemented in the short term to provide relief to identified problems or issues that the Town may be facing. These will be taken into consideration and prioritized based on budgets and/or funding resources.

CDCG recognizes that other issues may need to be considered in the implementation plan. This includes dependencies on budgets and funding resources; or other potential constraints that may require the system to be implemented over a shorter or longer time period.

3.1.9.2 Communications plan and report

CDCG will prepare a draft of the Communications Plan, with an executive summary identifying all of the work completed to date. The Plan will delineate the various facilities and technology alternatives available to the Town.

The report will also include the identified needs and requirements of the Town, including existing site conditions, coverage maps, connectivity, system design diagrams, budgetary cost estimates, and time schedules.

Other issues, such as implementation strategies for the short and long term will also be presented. CDCG will present a draft report to the Town's Project Team for their comments and modification, and if appropriate, will assist the Town Project Team in a presentation to appropriate officials.





3.2 Phase-2 • RFP Development and System Procurement

CDCG will develop a specification package for the design, engineering, and implementation of an upgraded/replacement Public Safety communications system for the Town of East Windsor.

3.2.1 Preparing bid specifications document

Once the Town of East Windsor selects the appropriate communications solutions provided in the Communications Plan report, CDCG will finalize the conceptual system design and will work with the Town of East Windsor to develop a Performance Specification Document [PSD] for the proposed radio system upgrade and/or replacement. The PSD will include functional, performance, and technical requirements necessary for qualified radio system vendors to provide a proposal that meets the needs of the Town of East Windsor. The PSD elements will include:

- Project Schedule
- Coverage requirements
- Equipment and Software requirements
- Facilities requirements
- Alert Paging & Fire Station alerting
- Installation labor
- Spare parts inventories
- Site preparation
- System and Network Testing
- Acceptance Procedures
- Technical and User Training
- Cutover Plan
- Warranty and Cost
- Maintenance and Cost
- Administration

In addition, CDCG will:

- Prepare functional and technical specifications
- Provide recommendations for contractual terms & conditions
- Provide clear definitions of vendor responsibilities and project completion/acceptance requirements.
- Coordinate with Town of East Windsor procurement officials
- Prepare vendor response forms and documentation format requirements
- Develop evaluation methodology and proposed weighting for Town of East Windsor review
- Attend pre-proposal meeting
- Respond to vendor questions





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

25

Through the years, CDCG has developed and fine-tuned an approach to specification and procurement that we have found to have strong benefit in the following areas:

- Clear requirements for Proposers
- Clear definition of responsibilities
- Clear and consistent response format
- Straightforward and objective application of evaluation criteria
- Efficient and effective scoring methodology
- Efficient and reliable evaluation process
- Produces a clear itemized list for use in contract negotiations
- Produces results that are acknowledged by Offerors to be a fair process

CDCG will provide assistance to the Town of East Windsor throughout the procurement process; to include evaluation, selection and contract negotiation.

CDCG will assist the Town of East Windsor in conducting a pre-proposal vendor conference and will provide technical support regarding the system specifications. In conjunction with the pre-proposal conference, CDCG will also accompany the Town of East Windsor on a site tour to allow vendors to inspect existing and potential new site facilities to assist in their system design. CDCG will recommend specific answers to vendor questions relating to the technical specifications of the system.

3.2.2 Evaluation and Award

Following release of the Town of East Windsor's procurement document to the vendors, CDCG will work with representatives of the Town of East Windsor to develop vendor proposal evaluation criteria. This grading matrix will serve as the basis for evaluating vendor proposals.

Upon receipt of vendor proposals, CDCG will assist the Town of East Windsor in a comprehensive evaluation of each proposal, and will develop an evaluation summary report that outlines the technical and cost evaluation, technical clarification, and an engineering recommendation for the proposed system that best meets the Town of East Windsor's requirements.

CDCG will meet with the Town of East Windsor to review the results of the evaluations. Evaluation documents will be collated and CDCG will provide formal documentation describing Offeror technical compliance and objective score.

3.2.3 Assist in Contract Negotiations

One additional benefit to the CDCG documentation methodology is that it provides a list of items for contract negotiations as a result of the evaluation process.

Assistance to the Town of East Windsor throughout the contract negotiation process will be provided. CDCG will develop a list of technical negotiation issues and present that list to the Town of East Windsor. CDCG will provide technical review and approval recommendations for acceptance testing. CDCG will attend contract negotiation meetings at the Town of East Windsor's request, and will provide overall quality assurance of Contractor compliance documents.



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

26

At the point when all negotiations are concluded and a contract document has been agreed upon, CDCG will submit a formal award recommendation. If required, CDCG will provide a formal presentation for Town of East Windsor officials recommending project approval.

Deliverable: CDCG will prepare for the Town of East Windsor a draft of the Procurement Specification Document [PSD] for review and comment and will modify the document to incorporate the Town of East Windsor's changes. Upon final approval by the Town of East Windsor, the RFP will be issued to the qualified vendors.

The draft Specifications will include an Evaluation Criteria document for a new communications system for review and comment.

After receiving the feedback on the specifications and evaluation criteria, CDCG will meet with the Town of East Windsor to review the comments provided on these documents. CDCG will incorporate the comments provided and the results of the meeting into the final System Specifications and Evaluation Criteria and deliver that document to the Town of East Windsor.

Phase-3 • System Implementation and Vendor Oversight

During the implementation period, East Windsor and its project staff will face challenges as the implementation progresses. These challenges will be the result of conflicting demands arising from sponsoring a complex project while trying to manage one's daily job responsibilities. CDCG is providing pricing to assist the East Windsor Project Manager in decision-making; and when needed, to be on-site to coordinate or monitor vendor activity; and, to provide technical support during through the implementation phase.

The CDCG project team is experienced overseeing of implementation plans, as well as managing external project influences that often threaten timely project completion, and will help the East Windsor team to manage implementation, testing and acceptance.

We propose that our responsibility will be to act as an agent for East Windsor with the selected contractor to provide a smooth transition to the new/upgraded system.

Based on these assumptions, CDCG proposes to spend time on-site with the vendor during critical milestones during the installation phase. The day-to-day management of the project will lie with East Windsor. We estimate overall involvement for East Windsor to be 70%, and 30% for CDCG, subject to East Windsor approvals.

At the commencement of the project, CDCG will meet with East Windsor's project team and to finalize objectives; the proposed implementation plan; and requirements with the East Windsor's project team and with the selected vendor.

CDCG proposes to support East Windsor by leading or participating in major technical milestones that will take place during the project construction cycle. Our response outlines the various specific elements to provide



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

27

assistance with vendor implementation management, installation inspections, overseeing vendor acceptance tests, training, and cut over process.

One of our goals is to identify problems before they become critical. This includes determining their causes and providing recommendations for their solution.

On behalf of East Windsor, CDCG will plan and coordinate monthly status meetings between East Windsor and the radio contractor to discuss work done, work in progress, and to solve any issue that may affect the schedule or system performance. We will also coordinate the resolution of problems and provide progress reports to the East Windsor's Project Manager.

Note that CDCG supports the concept of the Town managing and controlling project meetings and the accompanying agenda and schedule, as opposed to the selected vendor governing or directing meetings.

At certain points during the project, CDCG may hold weekly vendor conference calls to ensure that critical work is progressing.

Note that the implementation effort is challenging to estimate, as we do not know what the final system configuration, design, as well as who the selected vendor is, thus unclear the level of effort needed to complete the implementation tasks.

The selected vendor will drive the implementation schedule based on their final system design, installation resources, and the manufacturing effort involved. This presents difficulties in accurately estimating the required hours for vendor oversight, inspections, testing, cutover and acceptance; especially project disruptions or delays incurred by the vendor or other unanticipated events.

Based on the anticipated project tasks, we are identifying CDCG'S role in implementing the proposed radio system.

The hours submitted in our proposal is based on past project experience. CDCG is prepared to discuss and refine the scope to East Windsor's satisfaction based on the level of participation needed.

We anticipate that the project can be completed within 8-months; however, the successful vendor will drive the schedule based on available man-power resources, manufacturing timelines and third party equipment deliveries.



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

28

Basis of Proposed Implementation Cost

Our best guess is that the implementation period will be approximately 8-months.

Projected CDCG tasks as follows:

- Finalize Project Implementation Plan with East Windsor project team and the contractor
- Final system planning with successful vendor; radio, microwave, console
- Review detailed plans for equipment locations and for contractor compliance with specifications
- Transmitter site visits evaluation with successful vendor
- Attend Detailed Design Review [DDR] meeting of system and components with successful vendor; develop final equipment list before equipment order
- Attend progress meetings on an approximate monthly basis; besides regular contact with project team personnel and/or weekly conference calls
- Prepare and submit to East Windsor meeting minutes, detailed plans, calendar, and milestones during implementation
- Weekly vendor project calls [as project dictates]
- Respond to vendor questions and issues
- Work with East Windsor to obtain tower site owner approvals; requirements, negotiation, documents, drawings,
- Assist vendor in tower structural analyses
- System staging; assumes local, test participation & approval of results
- Console implementation task [mostly East Windsor responsibility]
- Review and approve vendor invoices
- Monitor project budget; reconcile any contract disputes
- Change Order management
- Radio/microwave system performance testing; equipment & coverage
- General supervision/monitoring of system installation activity [sites, towers, etc.]
- Ensure East Windsor is provided all appropriate drawings, and operational and maintenance Subscriber programming; review templates & code plugs
- Assist in any claims resolution to ensure that all items are 100% operational prior to the end of warranties
- Final acceptance testing; site inspections, confirm vendor compliance, provide final acceptance after all issues of non-compliance are resolved; resolve vendor/contract conflicts to East Windsor satisfaction
- Finalize cutover plan and monitor



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

29

- Review the system performance to decide if the system satisfies the goals and objectives; determine that the selected vendor is in full compliance with specification requirements
- Ensure that the contractor provides final as-built documentation
- Assure East Windsor's satisfaction with the system, prior to recommendation of system acceptance
- Final system acceptance, project closure; final meeting

Success of the East Windsor regional radio system project must be based on sound management principles that see the completion of an activity within the constraints of time, cost, and performance. Project success is dependent upon the efforts of the East Windsor, the consultant, and the radio contractor. All of whom share a responsibility to ensure the successful completion of project activities within these constraints.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

30

4.0 PROPOSED PROJECT COSTS, SCHEDULE, AND PROJECT ASSUMPTIONS

Our proposal is based upon our understanding and interpretation of the Town of East Windsor's RFP. We have made every effort to accurately estimate the cost of this proposal based on the information provided

Costs for this project reflect the scope of work outlined in our Work Plan. The Town's Project Team may elect to increase or decrease the scope of work proposed, at which time the final contract price shall be negotiated and adjusted accordingly between the Town Project Team and CDCG.

In order to be more responsive to the Town needs, CDCG respectfully reserves the right to move professional fees and expenses between project tasks, as needed, to complete the scope of work, as long as the total amount billed to the Town does not exceed the contract amount.

CDCG plans to invoice a percentage of the contract on a periodic basis according to the approved payment schedule. CDCG is open to other payment methods that the Town may suggest.

Anticipated expenses necessary for the execution of the project have been estimated as part of CDCG's price proposal.

Town of East Windsor Cost Proposal			
PHASE-1 Study and Report	Technology, Radio System Planning, Budgetary Cost Estimates, and Recommendations Report.	160 hours	\$24,000.00
PHASE-2 Specification & Bid Process	Procurement Specification, Pre-Bid Conference, Vendor Selection & Contract Negotiations	150 hours	\$22,500.00
PHASE-3 System Implementation	Assist the in implementing the selected vendor and solution	130 hours	\$19,500.00
Note Hourly rate: \$150.00		Mileage Expense	\$2,000
Project Total			\$68,000.00



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



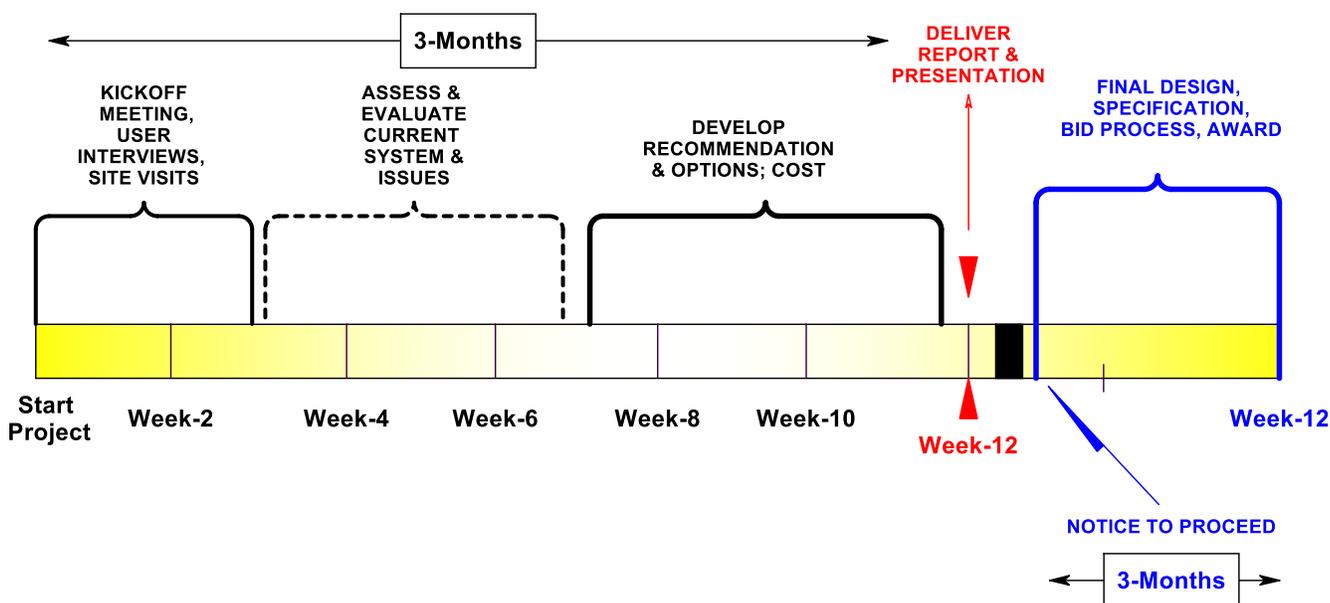
4.1 Project Schedule

We have provided a tentative schedule that outlines the specific Phases to be completed, and the estimated duration of each task based on our previous experience on similar projects. CDCG is prepared to discuss additions, deletions, or changes that may be necessary to fulfill the needs of the Town.

The following proposed project timeline is a high level schedule of expected activity that will be detailed into a Work Breakdown Structure [WBS] GANTT chart upon completion of the project kick off meeting.

East Windsor Radio Study: As required, the Draft Communications Study Report to be submitted in three [3] months from Notice to Proceed [contingent upon Covid-19 constraints]

Specification and Bid Process: Approximate timeframe from Notice to Proceed to vendor award is approximately three [3] months.





4.2 Proposal Assumptions

- The fees and rates contained herein shall remain valid for 60 days from the date of this proposal.
- CDCG assumes that the Town will appoint a project manager to oversee the project and to coordinate activities.
- CDCG fees are based on the estimated hours, travel and expenses included in the pricing for the Scope of Work defined in this document. Should the Town, at any time during the project, desire services that are outside the agreed upon scope of work, CDCG will prepare a quotation outlining the estimated effort, resources required, and cost for the requested service. Upon approval of the quotation, CDCG will provide the desired services at the agreed upon cost.
- Reimbursable expenses, such as travel and mileage, office supplies, paper, and printing/copying costs are included in our proposal.
- Regarding FCC Regulatory services, CDCG will provide a summary review of existing FCC frequencies and licenses.
- CDCG will NOT perform frequency research availability under this contract. Should a frequency research and licensing effort be desired to expand or replace frequencies, CDCG and the client will jointly develop a scope of work and CDCG will provide a quotation based on the agreed to effort.
- Our effort does not include local planning or zoning efforts, leasing or licensing of any sites, or engineering efforts required for co-channel short-spacing, commercial interference analysis, or analysis of the effects of new tower sites on existing AM transmission facilities.
- We have NOT provided services for Electrical, Mechanical, Structural, Civil, or other design engineering specifically requiring a registered Professional Engineering review, certification, or seal for these services unless explicitly stated in this proposal; however, should the Town Project Team desire these services, CDCG can provide the desired services at the agreed upon cost.
- CDCG's fees do not include physical microwave path surveys; historical or environmental impact studies; soil exploration and analysis; or land survey or legal fees.
- All regulatory fees [FAA, FCC, Frequency Coordination, etc.] are assumed to be the responsibility of the Town
- The Town Project Team, at any time and for any reason, upon written notice to CDCG, may terminate all or any part of the services identified in the SOW. The Town Project Team will reimburse CDCG all allowable costs incurred prior to receipt of the termination notice, for which costs CDCG can provide the Town Project Team with reasonable supporting documentation and for which CDCG has not received prior reimbursement or payment.
- CDCG will work with the Town Project Team to accommodate the project schedule.
- CDCG maintains both General and Professional Liability Insurance.





TOWN OF EAST WINDSOR POLICE DEPARTMENT

CONSULTING SERVICES PROPOSAL

LAND MOBILE RADIO ANALYSIS

FEBRUARY 19, 2021

33

5.0 STAFF RESUMES

The assembled CDCG project team is uniquely qualified to provide the services required for this consulting engagement. Project team resumes are found on the subsequent pages. The resumes show the depth of the team's ability to assist the Town of East Windsor in this important project.

STAFF RESUMES

Normand H. Boucher
Anthony "Chick" Langone
Blake Haskell



Communications Design Consulting Group, LLC

9 Tibbetts Rd, Barrington, NH 03825 • 603/905.9406



Normand H. Boucher

Principal Consultant

603/905.9604

603/867.9224 c

nboucher@cdcg-consultants.com

9 Tibbetts Road

Barrington, NH 03825

Mr. Normand Boucher - 35 Years Public Safety Experience

Experience includes a comprehensive range of radio communications design and implementation skills and expertise provided to the Public-Safety Communications community. Based on this experience and knowledge of the complex nature of Public Safety and Homeland Security Communications, Mr. Boucher has offered advice to clients with challenging situations, resulting in the development of successful strategies to effectively and successfully accomplish their communications objectives.

Planning, Designing, and Implementation of numerous conventional and trunked VHF, UHF, 700/800 MHz radio systems nationwide, manufactured by Motorola, Harris, Tait and E.F. Johnson. Many of these projects utilize advanced-technology systems such as APCO Project-25 networks.

Communications Engineer and Project Manager, with experience in analog/digital radio systems and 9-1-1 center technology, trunked system design, microwave, fiber, and radio site development/upgrades as well as in system maintenance definitions and specification.

PROFESSIONAL EXPERIENCE

Principal Consultant

Communications Design Consulting Group, LLC [CDCG] • 2004 -Present

Founded independent consulting firm providing comprehensive consulting services to public safety clients for upgrade or replacement of public safety land-mobile radio and wireless networks. CDCG also provides Subject Matter Expert [SME] services to various consulting firms nationwide. Services include planning, design, specification, procurement assistance, and network implementation of small and large-scale conventional or advance-technology wireless voice and data networks, including wireless transport systems such as microwave and broadband networks.

Director - Northeast Region

RCC Consultants, Inc., Andover, MA • 1988 – 2004

Responsible for the operations and management of RCC's Northeast Region consulting group, which included regional profit/loss, contract management, and business development. Develop proposal response to prospective clients, including defining the scope of work, identifying project staffing, and estimation of hours and cost. Monitoring and coordination of regional engineering staff and projects providing consulting and project management services for various clients.

Responsible for engineering and management of land-mobile radio and wireless telecommunication consulting services to clients in both the public and private sector in the New England and New York regions. These services encompassed a wide range of tasks that ultimately provided direction for the enhancement or acquisition of large-scale land-mobile radio communication systems.

EXPERTISE

- Planning, Design & Engineering of Mission Critical Public Safety Radio Communications Systems
 - Conventional & Trunked Radio Networks
 - Analog and Digital Systems [P25, DMR]
 - Simulcast & Multicast Networks
 - Microwave/Fiber Transport
 - Frequency Planning, Research, & Regulatory Compliance
 - Radiowave Propagation & Coverage Studies
 - Signal Measurement & Coverage Testing
-
- Needs Assessment
 - Technical & Procurement Specification Development
 - Cost Estimates & Budgetary Analysis
 - Vendor Proposal Analysis
 - Project/ Construction Management

EDUCATION & CERTIFICATION

Bachelor of Science Electrical Engineering

University of New Hampshire - 1980

Training

- IEEE Personal/Mobile Software Tools and Design of Wireless Networks
- ITT Telecom Fiber Optic and Multiplexing Seminar
- L3-Harris Consultant Training
- Motorola Consultant Training Seminars
- 800/900 MHz Propagation Seminar
- Engineering Considerations for Microwave Communications Systems

Associations / Memberships

- Commercial Member, Association of Public-Safety Communications Officials International (APCO)
- Institute of Electrical and Electronic Engineers (IEEE), Comm. & Vehicular Technology Societies; Life Member
- Project Management Institute (PMI); Member

Military

United States Army

Sergeant – Infantry

Viet Nam [1969 – 1970]



Project Examples

STATES	COUNTIES	CITIES & TOWNS	UTILITIES	OTHER
Delaware Office of Technology	Albany County, NY	Acushnet, MA	Baltimore Gas & Electric, MD	AMTRAK
Delaware DoITT	Baltimore County, MD	Andover, MA	Boston Water & Sewer, MA	Brown University, RI
Delaware DPS - DIVCOM	Calhoun County, AL	Asheville, NC	Central & Southwest Utilities, TX	Central MA EMS, MA
Florida JTF Statewide Radio System	Cayuga County, NY	Atkinson, NH	Central Maine Power Co.	Columbia Spectrum Management, MD
Mass. Dept. of Conservation & Recreation	Carroll County, NH	Atlanta, GA	EPRI, DC	Dartmouth College, NH
Mass. Dept. of Health - EMS Services	Chemung County, NY	Auburn, ME	Florida Power & Light Seabrook	Franklin Regional Council of Governments [FRCOG], MA
Mass. Exec. Office of Public Safety & Security	Chenango County, NY	Boston, MA	Long Island Lighting, NY	Glaxo, Inc., NC
Nebraska State Comm. Plan	Clark County, NV	Battleboro, VT	New England Power Corp, MA	JFK Airport, NY
New Hampshire Governor's Radio Task Force	Clinton County, NY	Carlisle, MA	Niagara Mohawk Power Corp, NY	Mass Bay Transit Authority [MBTA], MA
Rhode Island Dept of Administration DoIT	Cumberland County, ME	Cumberland, ME	Northeast Utilities, CT	Merrymeeting Council of Gov., ME
Rhode Island Dept of Corrections	Franklin County, VT	Falmouth, ME	NY State Electric & Gas, NY	Northeast MA Homeland Security Region [NERAC]
Rhode Island Dept of Transportation	Franklin County, MA	Fairhaven, MA	Public Service Electric & Gas, NJ	Boston - Mayor's Office of Emergency Preparedness
Rhode Island Emergency Management	Grand Isles County, VT	Fort Lauderdale, FL	Southwest Electric Power Co, LA	Maryland Institute of EMS Services [MIEMSS]
Rhode Island Public Transit Authority	Greene County, NY	Freeport, ME		Metropolitan Area Planning Council [MAPC], Boston, MA
Vermont DPS CJS	Howard County, MD	Gorham, ME		Metro Washington Airport Authority [MWAA], DC
	Lamoille County, VT	Groton, MA		Southeast MA Homeland Security Region [SRAC]
	Lewis County, NY	Hanover, NH		Upper Eastern Shore Counties, MD
INTERNATIONAL	Livingston County, NY	Las Vegas, NV		
Techno-Sciences, Inc. / Morocco	Loudon County, MD	Lebanon, NH		Subject Matter Expert [SME] - OTHER COMPANIES
Unilux-JV / Trinidad & Tobago	Madison County, NY	Lewiston, ME		ACD Telecom, Inc.
	Maui County, HI	Maitland, FL		ACG, Inc.
	McHenry County, IL	Mattapoisett, MA		ARCADIS, Inc.
	Middlesex County, NJ	Narragansett, RI		ArdentMC, Inc.
	New Castle County, DE	No. Providence, RI		Computer Analysis Associates, LLC
	Niagara County, NY	Norwich, VT		CCMS, Inc.
	North Hampton County, PA	New York, NY FDNY		CSA Consulting
	Oneida County, NY	New York, NY DoITT		CTGi, Inc.
	Onondaga County, NY	Peabody, MA		DiDonato Consulting Services, Inc.
	Oxford County, ME	Peekskill, NY		J. D. Hunter, Inc.
	Oswego County, NY	Providence, RI		Green Mountain Communications, Inc.
	Palm Beach County, FL	Portland, ME		Isotrope, Inc.
	Penobscot County, ME	Seekonk, MA		L3 Communications, Inc.
	Putnam County, NY	South Portland, ME		Langone & Associates
	Rensselaer County, NY	Syosset, LI, NY		Ossipee Mountain Electronics, Inc.
	Sacramento County, CA	Stamford, CT		RCC Consultants, Inc.
	Sagadahok County, ME	Tewksbury, MA		Robbins-Gioia, Inc.
	Schenectady County, NY	Waterford, CT		Ross & Barunzinni
	Seneca County, NY	Wilmington, DE		MACRO Inc.
	Suffolk County, NY	Westfird, MA		Malcolm-Pirnie, Inc.
	Warren County, NY	West Hartford, CT		Nelson Communications, Inc.
	Washington County, NY	Windsor, CT		NYSTEC Corporation
	Washington County, RI	Yarmouth, ME		Roaming Intelligence, LLC
	Yates County, NY			Touchstone. LLC
				Towpath, LLC
				Vogel Consulting Group
				Wildan Homeland Solutions, Inc.



Communications Design Consulting Group, LLC

Anthony Langone

Langone & Associates

978/851.0198
508/633.2470c
clangone@aol.com
87 Emerald Court
Tewksbury, MA 01876

Langone & Associates - 2001 to Present

Currently specializing in providing radio communications consulting services to public safety and other mission critical radio users. These services include needs assessment, evaluation, planning, radio propagation analysis, system design, communications planning, specification preparation, procurement support, implementation supervision and acceptance testing services

RCC CONSULTANTS, INC., Woodbridge, NJ – 1987 to 2001 Vice President and General Manager – Eastern Region

Directed staff of up to 20 professionals providing services for public safety communications projects. Assisted with the growth of the company staff from five to over one hundred personnel in ten years. Major projects included (\$ amounts indicate construction value):

- City of Akron, OH – \$8M Voice/Data Radio System
- Massachusetts State Police - \$5M Voice and Data Radio System
- Niagara Frontier Transportation Authority, NY - \$10M Bus Radio System
- Oneida County, NY - \$1M Consolidated Communications Center
- Onondaga County, NY - \$4M Consolidated Communications Center
- Port Authority of NY/NJ – On Call Radio Consulting Services

MOTOROLA C & E, INC., Waltham, MA – 1975 to 1985 System Engineering Group Leader

Responsible for directing and coordinating a staff of systems engineers who provided pre-sale and post-sales support on complex radio communications systems for clients such as the Boston Police Department, Greater Boston Police Council, Massachusetts Bay Transportation Authority and the Massachusetts Port Authority.

SUN COMPANY, INC., Philadelphia, PA -1974 to 1975

Technical Support Supervisor - Telecommunications Department for a major worldwide petroleum product company.

EDUCATION

Bachelor of Science Electrical Engineering,
University of Massachusetts

Northeastern University

Business Management Courses,

Merrimack College

Business management Courses,

MILITARY SERVICE

United States Air Force - 1969 to 1973

- Captain/Project Engineer
- Performed worldwide assignments for the design, implementation and testing of critical communications systems.

ASSOCIATIONS & MEMBERSHIPS

- Commercial Member, Association of Public-Safety Communications Officials International (APCO)
- Institute of Electrical and Electronic Engineers (IEEE), Comm. & Vehicular Technology Societies
- Massachusetts Chiefs of Police Association, Sustaining Member

Over 30 years of experience in public safety and other mission critical radio communications systems to meet demanding 24x7 operational needs for clients including:

- County of Onondaga (NY)
- Boston College Police Department (MA)
- Suffolk County Sheriff's Department (MA)
- Town of Harvard (MA)
- Town of Hopkinton (MA)
- Town of Lunenburg (MA)
- Town of Milton (MA)
- Greater Boston Police Council (MA)
- Northeastern Massachusetts Law Enforcement Council (MA)
- Boston Police Department (MA)
- Boston Fire Department (MA)
- Boston EMS Department (MA)
- Worcester Police Department (MA)
- City of Medford (MA)
- Town of Lexington (MA)
- City of Waltham (MA)
- Summit County (OH)
- City of Philadelphia (PA)
- City of West Palm Beach (FL)
- Metro-Dade County (FL)
- Boston Water and Sewer Commission (MA)
- Massachusetts Water Resources Authority (MA)
- Massachusetts Port Authority (MA)
- Metropolitan Washington Airports Authority (DC & VA)
- Massachusetts Bay Transportation Authority (MA)
- Los Angeles World Airports (CA)
- Town of Greenwich (CT)
- Town of Avon (CT)
- Boston Edison (MA) – Plymouth Nuclear Facility
- Public Service Gas & Electric (NJ) – Hope Creek Nuclear Facility
- Niagara Mohawk Power Corporation (NY)
- New York City Police Department (NY)
- Fire Department of New York (NY)
- City of South Burlington (VT)



Blake T. Haskell

J. D. Hunter, Inc.

(781) 925-9900

(617) 285-6911c

bthaskell@jdhunterinc.com

13 Halvorsen Ave

Hull, MA 02045

J. D. Hunter, Inc.

President

2000 to Present

Established site acquisition, development and management company focused on the wireless markets of New England and the Mid Atlantic states. We currently have several wireless facilities under various stages of development in Connecticut, Massachusetts, New Hampshire, Maine and Vermont. Consulting services to several Massachusetts communities and agencies on telecommunications and 9-1-1 Center management issues and Grant Writing.

Site Acquisition Manager

Arch Wireless, Inc., Westborough, Massachusetts

Responsible for the identification and acquisition of transmitter sites throughout the United States; supervised employees and contractors on various aspects of site acquisition; negotiated master lease agreements; coordinated division technical personnel on lease negotiations; prepared budgets and made written and oral reports; represented company at industry related events.

Led national multi-company project to retrieve over 750 base stations from bankrupt PCS carrier, coordinated removal, transport and storage and deployment, leading to a cost savings of several million dollars.

Project Manager

LCC International, Inc. 1999 – 2000

Responsible for the acquisition and permitting of TAMS paging facilities throughout the metropolitan New York market for PageNet, Inc.; Supervised activities of site personnel; liaison with client and other wireless entities; developed collocation agreements.

Site Acquisition Coordinator

AT&T Wireless Services, Inc., Westwood, Massachusetts 1995 – 1998

Responsible for the acquisition and permitting of antenna facilities throughout the Boston/Providence market. Strong experience in lease negotiations, all aspects of zoning and land-use permitting for wireless facilities. Managed external contractors and employees to meet system build-out targets for acquisition and permitting.

Successfully led effort to acquire and permit sites in communities with strong zoning by-laws (Wellesley, Dedham and Westwood)

Helped to bring new Digital PCS system on-line with over 250 antenna facilities in approximately 24 month period.

Asked to serve as Subject Matter Expert on site acquisition for Department of Justice Public Safety Wireless Network symposium.

Bell Atlantic Mobile, Wallingford, Connecticut 1989 –1995 Manager, Real Estate/Zoning

Responsible for acquiring and permitting sites. Coordinate activities of RF Engineering and construction personnel. Experienced in lease negotiations. Researched and prepared utility and access agreements.

Assisted in the creation of a corporate-wide collocation program

Served on regional corporate cultural change team and chaired "Best Cost" Committee

Received BAM Network 7-c Quality Improvement Award for process improvements

Trained and oriented new personnel on site acquisition processes

Digital PBX Environmental Land Use Issues Zoning Issues Wireless Data Services RFE & Site Safety Awareness

EDUCATION

Housatonic Community College & University of Bridgeport 1973 – 1976

New York University – School of Continuing Education 1988

Attended Certificate Program in Telecommunications Analysis and Management

ASSOCIATIONS & MEMBERSHIPS

- Chairman, Emergency Services Building Committee, Town of Guilford, Connecticut
- Radio Club of America, 2001
- Amateur Radio Operator, K1BTH
- Life Member, American Radio Relay League
- District Emergency Coordinator – Metro Boston, Eastern MA
- APCO, Member
- Co-Chair, Publicity Committee, APCO 1990
- Annual Conference, Boston, MA - APCO 2000
- Conference Committee, Boston, MA - Presenter at 2001 & 2002 International APCO Conferences,
- Communications Manager - Exhibits Chairman 2002 Atlantic Chapter Annual Conference